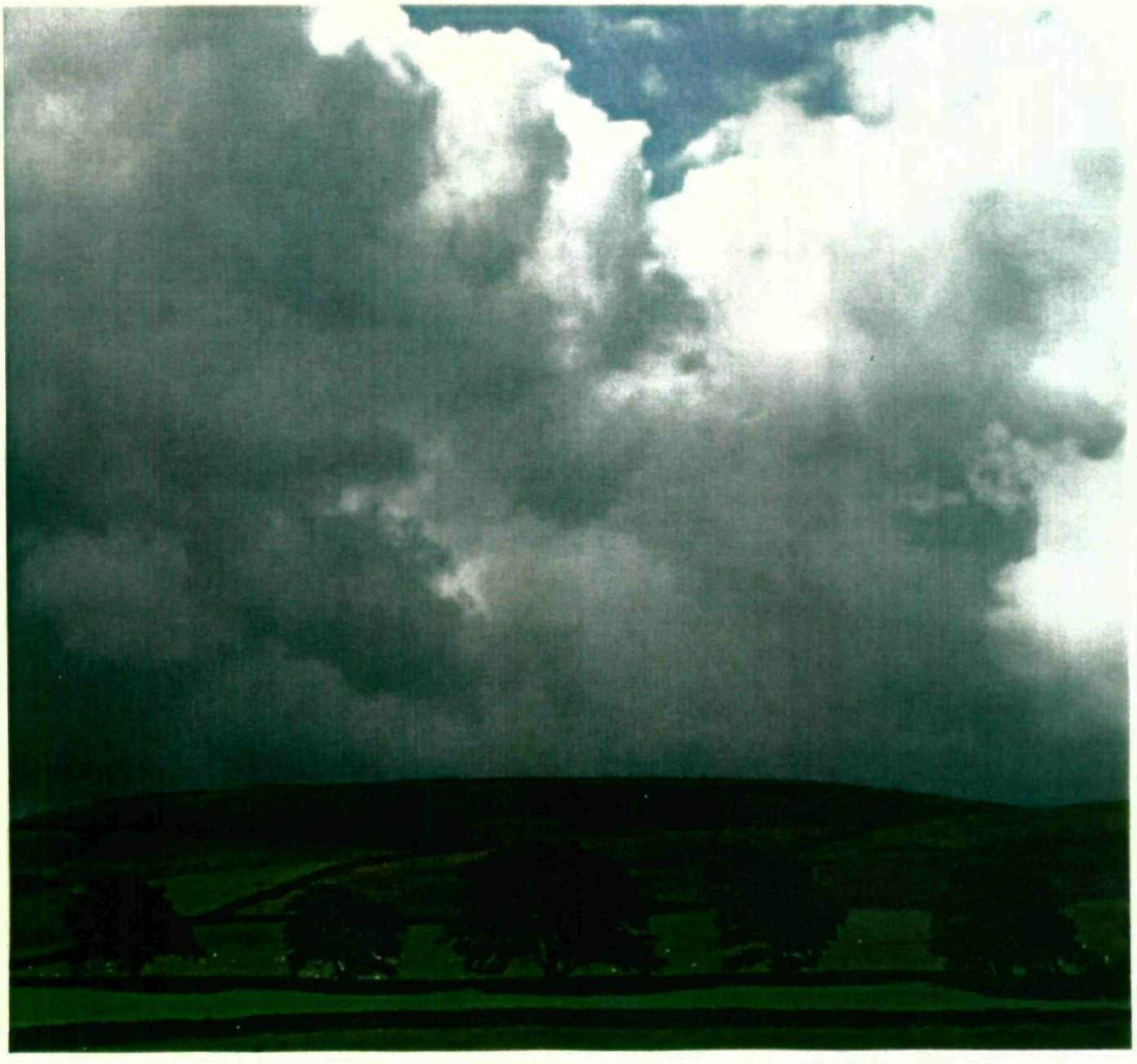
Peel Street, Barnsley - Dust Assessment



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Figure 1: Proposed Development Area 1

Capabilities on project:
Environment

1 Introduction

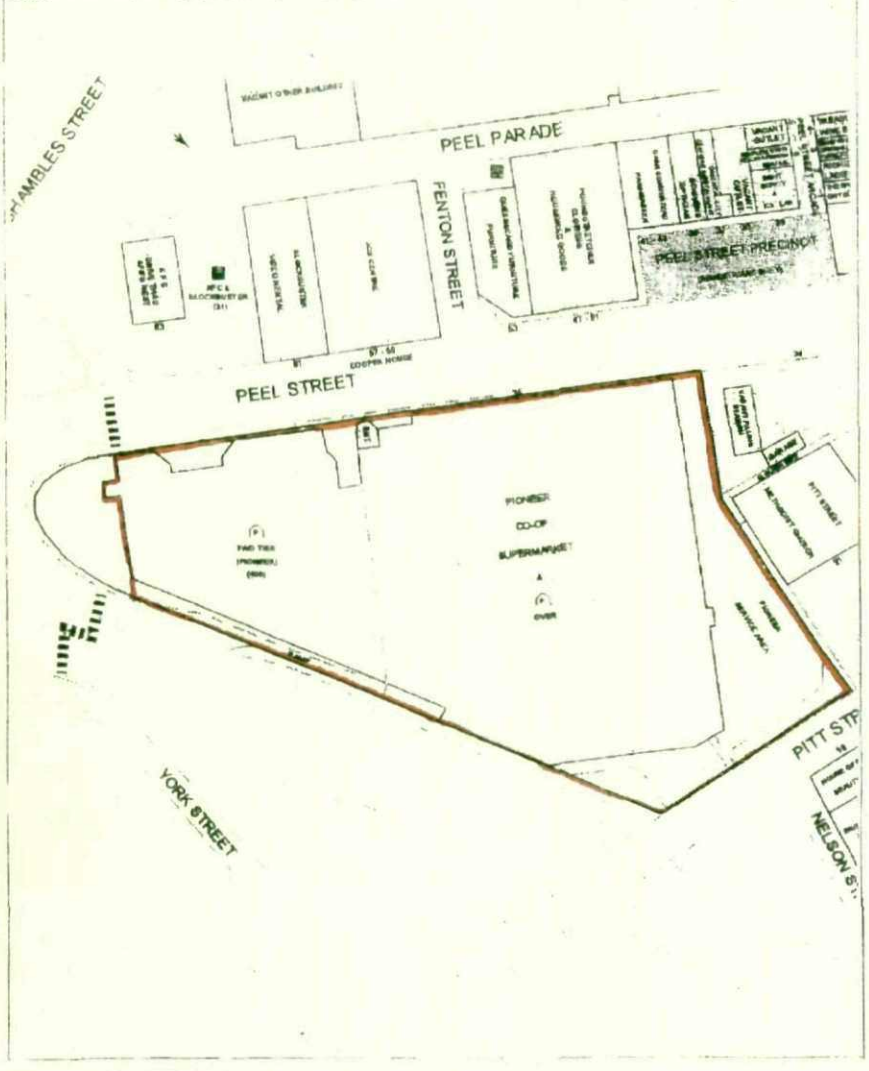
1.1 Introduction

AECOM have been commissioned to undertake an assessment of the potential dust impacts during the demolition and construction phases of the proposed Lidl store at Peel Street, Barnsley. Where appropriate, mitigation has been recommended to control the dust impact to within acceptable limits.

1.2 Location

The proposed development site is located on the site of the former Pioneer Co-Op supermarket in Barnsley, at the junction of Peel Street and the A628 West Way. The extent of the proposed development area is shown in red in Figure 1.

Figure 1: Proposed Development Area



1.3 Consultation

Barnsley Metropolitan Borough Council Pollution control Officer, Chris Shields, was contacted on 26 May 2010 to confirm the proposed scope of the assessment. No specific concerns regarding construction dust were identified, subject to suitable mitigation controls.

2 Legislation, Guidance and Planning Policy

2.1 Overview

The provisions of Part IV of the Environment Act 1995 (HMSO, 1995) establish a national framework for air quality management, which requires all local authorities in England, Northern Ireland, Scotland and Wales to conduct local air quality reviews. Section 82(1) of the Act requires these reviews to include an assessment of the current air quality in the area and the predicted air quality in future years. Should the reviews indicate that the standards prescribed in the Air Quality Strategy 2007 (HMSO, 2007) will not be met; the local authority is required to designate an Air Quality Management Area (AQMA). Action must then be taken at a local level to ensure that air quality in the area improves.

2.2 The Air Quality Strategy

The Air Quality Strategy (HMSO, 2007) identifies several ambient air pollutants that have the potential to cause harm to human health. These pollutants are associated with local air quality problems, with the exception of ozone, which is recognised as being a regional problem.

The Air Quality Strategy sets standards for the pollutants that are associated with local air quality. These objectives aim to reduce the health impacts of the pollutants to negligible levels. The most important pollutants with regard to road schemes are nitrogen dioxide (NO_2) and particulate matter with an aerodynamic diameter below 10 µm (PM_{10}).

The following additional guidance and strategic documents are important with regard to air quality:

- The policy and technical guidance notes, LAQM.PG(09) (Defra, 2009b) and LAQM.TG(09) (Defra, 2009a), issued by the Government to assist local authorities in their Local Air Quality Management responsibilities;
- Planning Policy Statement 23: Planning and Pollution Control (PPS 23) (ODPM, 2006).

2.3 Pollutants of Concern

The potential air quality impacts associated with the construction phase of the proposed development will be due to emissions from the works and from the construction equipment and mobile plant. The pollutants of concern are discussed below with reference to the relevant UK Air Quality Objectives.

2.3.1 Particulate Matter (PM_{10})

Particulate matter is composed of a wide range of materials arising from a variety of sources. Particulate matter is typically assessed as total suspended particulates or as a mass size fraction. National objectives and European limit values already apply for the PM_{10} fraction and objectives and limit values will apply for $PM_{2.5}$ from 2020 and 2015 respectively.. These express particulate levels as the total mass size fraction at or below an aerodynamic diameter of 10 and 2.5 µm respectively.

Two objectives have been adopted for PM_{10}, which were to be achieved by the end of 2004:

- An annual mean concentration of 40 $\mu g/m^3$ (gravimetric); and,
- A 24-hour mean concentration of 50 $\mu g/m^3$ (gravimetric) to be exceeded no more than 35 times per year.

Two health based objectives have recently been adopted by the EU for particles of under 2.5 µm in diameter ($PM_{2.5}$):

- An annual mean concentration of 25 $\mu g/m^3$ to be achieved by 2010; and,
- A 15% reduction in annual mean concentration between 2010 and 2020.

However, modelling tools have not yet been made available for the $PM_{2.5}$ fraction and a worst-case scenario may be used whereby the modelled concentration of PM_{10} is compared subjectively with the $PM_{2.5}$ objectives.

Both short-term and long-term exposure to ambient levels of particulate matter are consistently associated with respiratory and cardiovascular illness and mortality as well as other ill-health effects. Particles of less than 10 µm in diameter have the greatest likelihood of reaching the thoracic region of the respiratory tract.

It is not currently possible to discern a threshold concentration below which there are no effects on the whole population's health. Recent reviews by WHO and the Committee on the Medical Effects of Air Pollutants (COMEAP, 1998) have suggested exposure

to a finer fraction of particles ($PM_{2.5}$, which typically make up around two thirds of PM_{10} emissions and concentrations) give a stronger association with the observed ill health effects, but also warn that there is evidence that the coarse fraction (between PM_{10} - $PM_{2.5}$) also has some effects on health.

2.3.2 Construction Dust

Dust is defined as all particulate matter up to 75 µm in diameter and comprising both suspended and deposited dust, whereas PM_{10} is a mass fraction of airborne particles of diameter of 10 µm or less. The health impacts associated with dust include eye, nose and throat irritation in addition to the nuisance caused by deposition on cars, windows and property. Dust and PM_{10} emissions arise from a number of sources, so both construction activities and emissions from vehicles associated with the construction site should be considered.

2.4 Local Air Quality Management

Local air quality management is undertaken by Barnsley Metropolitan Borough Council (BMBC). The proposed development site is within 100 m of Air Quality Management Area (AQMA) 2A, which has been designated for the pollutant NO_2, rather than PM_{10}, and extends from the A628 Town End Roundabout to the M1 Junction 37, including part of Summer Lane from Town End Roundabout to Wharncliffe Street. Whilst the AQMA has been declared for NO_2, rather than PM_{10},

The recent LAQM reports and monitoring data have been requested from BMBC, but have not yet been released for consultation. Continuous monitoring of PM_{10} is undertaken at Old Mill Lane, approximately 500 m north of the proposed development site. Data from 2007 are provided in Table 1. Whilst the annual mean concentration is within the annual mean limit value and the number of daily exceedences is within the daily objective, they are only just within the objectives.

Table 1: PM_{10} Air Quality Monitoring Undertaken by BMBC

Year	Annual Mean PM_{10} (µg/m^3)	Exceedences of Daily Objective (35 permitted)
2007	34	19

3 Impact Assessment

3.1 Dust Generating Potential

According to the Best Practice Guidance provided by London Councils (GLC, 2006), determining the potential for a development to generate dust is dependent on the size and duration of dust generating activities.

The criteria in Table 2 are adapted from the London Councils' Best Practice Guidance. The demolition and construction activity is likely to occur during a period of less than 1 year and the proposed development area will be approximately 5,000 m^2, which categorises it as a 'medium' size (according to the criteria in Table 2). Based on the scale and duration of the scheme, the potential for the development to generate dust should be considered 'medium'.

Table 2: Defining dust and particulate generating potential

		Approximate Size of Development (with consideration of dust generating activities)		
		Small e.g. area of <1000 m^2 e.g. <10 houses	**Medium** e.g. area of 1000-15,000 m^2 e.g. 10-150 houses	**Large** e.g. area of >15,000 m^2 e.g. >150 houses
Approximate Duration of dust generating activities	**Weeks**	Low Potential	Low Potential	Medium Potential
	Months	Low Potential	Medium Potential	High Potential
	Years	Medium Potential	High Potential	High Potential

Table 4 is used to indicate the area within which significant impacts may be experienced, based on the potential of the development to generate dust. The table is derived from professional experience of many different types of projects, discussions with practitioners in the field and published reports (such as Association of British Ports, 2000). According to the table, if no dust mitigation measures are applied then nuisance dust impacts may affect sensitive receptors up to 200 m from the site.

Table 3: Potential Distance for Significant Impacts from Construction Activities

		Potential Distance for Significant Impacts from Construction Activities		
		Nuisance Dust (e.g. soiling of property)	**PM_{10} Concentrations** (Health impacts)	**Effects to Vegetation** (e.g. horticultural land and farmland)
Dust and particulate generating potential	**Low**	Up to 100 m	Up to 25 m	Up to 25 m
	Medium	Up to 200 m	Up to 50 m	Up to 50 m
	High	Up to 500 m	Up to 100 m	Up to 100 m

3.2 Construction Dust Sensitive Receptors

Table 4 lists types of receptors typically affected by dust from construction sites and their relative sensitivity (ODPM, 2005).

Table 4: Defining Receptor Sensitivity to Dust

Low Sensitivity	**Medium Sensitivity**	**High Sensitivity**
Farms Light and heavy industry Outdoor storage	Schools Residential properties Food retailers Greenhouses and nurseries Horticultural land Offices	Hospitals and clinics Retirement homes Hi-tech industries Painting and furnishing Food processing

The proposed development is near the town centre, in a predominantly commercial area. There are several commercial buildings directly adjacent to the site, although there is a fast-food restaurant to the north, a church on the opposite side of the West Way to the south-west, and a school to the south-east. Within the 200 m extent of the potential area of impact (see Section 3.1, above), there are primarily residential properties to the north, west and south, and commercial properties in the town centre to the east. According to the criteria in Table 4, these are mainly 'medium sensitivity' receptors. No 'high sensitivity' receptors have been identified.

The majority or receptors are considered to be medium sensitivity. Therefore, with according to the criteria in Table 5, given the 'medium' dust generating potential (see Section 3.1, above), the risk of a dust impact is 'medium'.

Table 5: Determining Risk of Dust and Particulate Impact

		Receptor Sensitivity		
		Low	**Medium**	**High**
Dust and particulate generating potential	**Low**	Low Risk	Low Risk	Medium Risk
	Medium	Low Risk	Medium Risk	High Risk
	High	Medium Risk	High Risk	High Risk

4 Mitigation

A number of mitigation measures can be adopted to reduce the production and/or dispersal of dust to lessen the nuisance and limit the human health impacts. Ideally dust should be controlled at the source as once airborne it is difficult to suppress. It is noted in the BRE Guidance on the Control of Dust from Construction and Demolition Sites (2003a) that once airborne, it becomes more difficult to prevent the dispersion of particles. As dust emissions from construction sites are likely to be the sum of many smaller processes or activities, attention to detail can result in effective management of the total emissions from site (BRE, 2003a).

Identifying potential dust generating activities and good site planning is essential to prevent unnecessary dust production and *should be conducted prior to commencing work. Where appropriate, dust generating activities should be undertaken off-site*, however, where this is not possible these activities should be located away from the site boundary and sensitive receptors.

Appropriate mitigation is discussed in the following guidance documents:

- BRE (2003a): Guidance on the Control of Dust from Construction and Demolition Activities;
- BRE (2003b): Controlling Particulates, Vapours and Noise Pollution from Construction Sites; and,
- London Councils (2006): The control of dust and emissions from construction and demolition: Best Practice Guidance.

Before the start of works, the following general pre-project planning measures should be implemented or arranged. This may be undertaken through a dedicated Dust Action Plan or Construction Environmental Management Plan (CEMP):

- Identification of dust generating activities;
- Assembly of method statements;
- Allocation of responsibilities – action and reporting;
- Training of relevant personnel;
- Local residents should be informed in advance of the intention to commence work and the projected duration of the work;
- A log for complaints from the public should be maintained;
- Fulfilment of planning requirements;
- Handling of public relations; and,
- Control of site traffic and set up of access routes.

According to the assessment criteria, the works are considered to have a 'medium' dust generating potential. Appropriate mitigation measures recommended by the London Councils Best Practice Guidance (GLC, 2006) are provided in Table 6, and extended mitigation for each activity that may occur on the site are provided in Appendix A. If these measures are adopted, the dust generating potential should be reduced to 'low' for all activities on the site.

If the recommendations are implemented is likely that the maximum potential distance for significant impacts to occur from the dust source will be reduced by 50-75%; to approximately 50-100 m for nuisance dust; to 10-25 m for PM_{10} health impacts and vegetation effects. It should be noted that this is the 'maximum' potential distance; impacts will most likely only be felt at such distances under particular sets of circumstances (e.g prolonged warm, dry, windy weather coinciding with more dusty activities).

The extent of the residual impact may include:

- Fast-food restaurant and commercial properties north of the site on Peel Street;
- Church to the south-west of the site on York Street; and
- Commercial buildings directly west of the site.

Table 6: Potential Site Operations and Possible Methods of Controlling Dust

Activity	Possible Dust Control Methods
Soil handling & excavation	Restrict the duration of the activity. Seal and seed storage mound surfaces as soon as is practicable. Protect surfaces from winds until disturbed areas are sealed and stable.
Overburden handling	Protect exposed material from wind (by keeping material within voids or protecting them by topographical features). Spray exposed surfaces of mounds regularly to maintain surface moisture unless mound surface has formed a crust after rainfall or is grassed. Minimise handling.
Demolition Works	Use hoarding especially in vulnerable areas.
Laying granular materials	Use water sprays.
Loading/Unloading activities	Reduce drop heights wherever practicable. Protect activities from wind.
Minerals processing	Varies depending on type of equipment used but generally complete enclosure is best with use of air extraction and filter equipment as appropriate. Use water sprays.
Material storage	Dampen material. Protect from wind and store under cover. Screen material to remove dusty fractions prior to external storage.
Transport by vehicle within and off-site	Restrict vehicle speed. Water unsurfaced roads and paved roads. Wheel or body wash at an appropriate distance from site entrance. Load and unload in areas protected from wind. Minimise drop heights. Sheet or cover loaded vehicles. Use water sprays/spray curtains to moisten material. Sweep/wash paved roads. Use paved roads where practicable. Demolition and construction vehicles conform to at least Euro III standards.

5 Conclusions

A dust impact assessment has been undertaken to identify the potential dust impacts due to demolition and construction activities at the proposed development site.

The conclusions of the assessment are:

- The dust generating potential of the works has been classified as 'medium';
- The site is in a mixed commercial and residential area with 'medium' sensitivity receptors (to dust impact) within 200 m;
- If no dust mitigation measures are applied then nuisance dust impacts may affect sensitive receptors up to approximately 200 m from the site.

A summary of suitable dust mitigation is provided in the report, and detailed recommendations are provided in the Appendix. If suitable mitigation measures are adopted, the dust generating potential should be reduced to 'low' for all activities on the site and the extent of the impact reduced to approximately 50-100 m for nuisance dust; and to 10-25 m for PM_{10} health impacts.

The mitigation impact is predicted to be of 'minor' significance, as the works will be within 100 m of the school on Pitt Street. However, the effects will be temporary and should be acceptable if appropriate mitigation is applied.

References

Associated British Ports (ABP) (2000), Dibden Bay Air Quality Impact Assessment-Terminal TS/AQ1.

BRE (2003a) Guidance on the Control of Dust from Construction and Demolition Activities

BRE (2003b) Controlling Particulates, Vapours and Noise Pollution from Construction Sites

Barnsley Metropolitan Borough Council (2008) Air Quality Progress Report

Defra (2009a) Local Air Quality Management, Technical Guidance LAQM.TG (09)

Defra (2009b) Local Air Quality Management, Policy Guidance LAQM.PG (09)

Environment Agency (2009), H1 Environmental Risk Assessment, Annex F, Air Emissions

EPUK (2010) Development Control: Planning for Air Quality (2010 Update)

HMSO (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

IAQM (2009) Position on the Description of Air Quality Impacts and the Assessment of their Significance

London Councils (2006) The control of dust and emissions from construction and demolition: Best Practice Guidance

Office of the Deputy Prime Minister (2004) Planning Policy Statement 23: Planning and Pollution Control

Office of the Deputy Prime Minister (2005) Minerals Policy Statement 2: Controlling and Mitigating the Environmental Effects of Minerals Extraction in England: Annex 1 Dust.

Appendices

Appendix A: Detailed Dust Mitigation

Site Preparation and Restoration

Site preparation can lead to significant generation of dust, particularly during periods of dry weather followed by strong winds. Surfaces should always be disturbed as little as possible and subsequently stabilised as soon as possible. Guidance to mitigate dust generation from site preparation and to restore land in a way to minimise nuisance dust is given in Table 7.

Table 7: Dust Control Guidance during Site Preparation and Restoration

Potential Dust Source	Dust Control Guidance
Earthworks, excavation and digging	• Vegetation and cover should be removed in discrete sections and not all at once where possible. • Earthworks, excavation and digging activities should be kept damp and, if possible, be *avoided during exceptionally dry weather periods.*
Completed earthworks	• Stabilise surfaces and/or re-vegetate as soon as possible.
Storage mounds	• During exceptionally dry weather periods storage mounds should be kept damp. • Alternatively, cover with correctly secured tarpaulins.
Landscaping	• Soils may be landscaped into suitable shapes for secondary functions, such as visual screening.
Transitory soil mounds	• During exceptionally dry weather periods storage mounds should be kept damp
Processing aggregates, crushing and screening	• Crushers should be sited as far away as possible from sensitive receptors. • Mobile plant for crushing, screening and grading of materials will require authorisation (under the Environmental Protection Act, 1990) by the appropriate Local Authority in whose area the operating company's registered office is situated. Local Authorities where the operating company is registered and the Local Authority where the Mobile Plant is to *be used will be notified prior to use.*

Demolition

Dust from demolition can have a significant effect on neighbouring areas. Guidance to mitigate excessive dust generation from demolition is detailed in Table 8.

Should there be a possibility that buildings affected by the works include asbestos-containing materials, there may be a need for a comprehensive Type 3 asbestos survey and controlled removal to be conducted under the Control of Asbestos Regulations, 2006 (TSO, 2006), due to the potential of fibre release during uncontrolled demolition.

Table 8: Dust Control Guidance during Demolition

Potential Dust Source	Dust Control Guidance
Blasting using explosives	• Blasting should be avoided and other methods used wherever possible.
Sheeting/screening	• Buildings should be screened with suitable debris screens and sheets.
Biological materials	• Bird droppings and other biological material should be removed prior to demolition. • Care must be taken that the material does not become airborne, but is sufficiently contained.
Asbestos	• Asbestos must be removed by a registered specialist contractor prior to demolition.
Water sprays	• Suitable and sufficient water sprays must be used. • Spraying should be carried out prior to and during demolition.
Chutes for dropping demolition materials to ground level	• Enclose chutes and skips. Regular water spraying should be carried out. • Material drop heights should be minimised.
Removal of materials from site	• Materials should be removed from the site as soon as is practical. Prolonged storage of debris on site or exposure to wind should be avoided.
Transport of materials	• Vehicles removing demolition materials must have their loads effectively sheeted (if required).
Vehicle routes	• As far as practical, routes should be located away from residential and commercial properties.
Crushing of material for reuse, transportation or disposal	• Crushers should be sited as far away as possible from sensitive receptors. • Mobile plant, e.g. crushing, screening and roadstone coating plant, will require authorisation by the Local Authority in whose area the operating company's registered office is situated. Local Authorities where the operating company is registered and the Local Authority where the Mobile Plant is to be used will be notified prior to use.

Materials Handling, Storage, Stockpiling, Spillage and Disposal

Method statements should be established to define the procedures to be followed for the storage and handling of fine, powdery and dry materials.

Settled dust may become airborne during windy conditions. Solid fencing or hoarding can provide shelter from the wind and reduce the possibility of dust suspension from the ground. Areas of the site that are expected to be significant local sources of dust generation can be fenced in this way. In general, fences need to be of the same approximate size as, or slightly larger than the object being protected (e.g. stockpiles) if they are to be effective.

Wet material is likely to dry out during periods of hot weather and more frequent damping will be required. Advice and approval from the Environment Agency may be required on how to control the run-off of slurry when dusty material is damped down using water.

Under the Clean Air Act (1993), open fires should be avoided on site. The use of small incinerators is regarded as more acceptable, but requires approval under Section 21 of the Clean Air Act (1993).

Specific guidance on materials handling is given in Table 9, storage in Table 10, stockpiling in Table 11, spillage in Table 12 and materials disposal in Table 13.

Table 9: Dust Control Guidance for Emissions from Handling of Materials

Potential Dust Source	Dust Control Guidance
Material handling operations	• Always keep the number of handling operations to a minimum by ensuring that dusty material isn't moved or handled unnecessarily.
Transport of fine powdery materials	• Use closed tankers.
Transport of dusty materials and aggregates	• Use enclosed or sheeted vehicles (for dusty/dry materials).
Handling areas	• Keep clean and free from dust.
Vehicle loading	• Use material handling methods that minimise the generation of airborne dust. • Damp down using water.
Loading materials onto vehicles	• Drop heights must be kept to a minimum and conveyors and enclosed wherever possible. • *Damp down with water.*
Chutes, skips and conveyor transfer points	• Drop heights must be kept to a minimum and enclosed wherever possible. • Damp down with water.
Conveyor loads	• Damp down wherever possible.
Dust dispersing	• Use static sprinklers, bowsers, hand held over the site boundary hoses and other watering methods, as necessary.

Table 10: Dust Control Guidance for Emissions from Storage of Powder Material

Potential Dust Source	Dust Control Guidance
Bulk cement, bentonite and similar materials	• Delivered by tanker and stored in silos
Silos	• Ventilators should be fitted with particle filters.
Accidental spills when filling / operating silos	• Methods and equipment for cleaning should be in place. If necessary, include the use of audible and visual alarm systems.
Fine, dry materials (less than ~3 mm in particle size)	• Store inside buildings or enclosures or with adequate protection from the wind e.g. by using sheeting.
Dry materials (greater than ~3 mm in size)	• Store materials in bunded areas.
Storage location	• Store materials away from the site boundary and sensitive areas, wherever possible.

Table 11: Dust Control Guidance for Emissions from Stockpiles

Potential Dust Source	Dust Control Guidance
Stockpile location	• Stockpiles should be located away from sensitive receptors e.g. residential, commercial and educational buildings, places of public access or other features, such as watercourses.
Building stockpiles	• Ensure slopes of stockpiles, tips and mounds are at an angle not greater than the natural angle of repose of the material. • Avoid sharp changes of shape.
Small and short-term stockpiles	• Where possible, ensure stockpiles are kept or under sheeting. • Dusty materials can be damped down using suitable and sufficient water sprays. • Wind barriers (protective fences) of similar size and height to the stockpile may be used.
Larger and long-term stockpiles	• Shrouding, wind shielding using screens, watering and controlled spraying of the surface with chemical bonding agents, should be carried out (subject to necessary approval from the Environment Agency). • Wind barriers (protective fences) of similar size and height to the stockpile may be used. • Long-term stockpiles can be capped or grassed over.

Table 12: Dust Control Guidance for Emissions from Spillages

Potential Dust Source	Dust Control Guidance
Cleaning up	• Methods and equipment should be in place for immediate clean-up of spillages of dusty or potentially dusty materials.
Inspection	• Regularly inspect site for spillages.
Cement powder (and similar)	• Clean up spillages using wet handling methods.

Table 13: Dust Control Guidance on Disposal of Waste Material from Construction

Potential Dust Source	Dust Control Guidance
Disposal method	• No burning of waste on open fires will be permitted.
Combustion method	• Use an incinerator and not open fires. • Incinerator must be an approved appliance (under the Clean Air Act 1993).
Supervision	• Any fires or incineration must be supervised at all times.
Treated timbers	• Timbers treated chemically to resist rotting or insects etc. should not be burned.

Vehicle/Plant Movements and Roads, Surfaces and Highways

Engine emissions, especially from diesel engines, can be a significant source of fine particle matter, which is monitored and controlled under the Air Quality Strategy (HMSO, 2007) due to potential adverse health impacts. Control measures with regard to routes used during the construction phases are detailed in Table 14.

In addition to the dust caused by construction vehicles, non-road mobile machinery (NRMM) is capable of significant emissions. Where possible NRMM should be taken from an approved list available on the Energy Saving Trust website (www.est.org.uk) as outlined by the London Councils best Practice Guidance (2006). Further details are given in Table 15.

Table 14: Dust Control Guidance for Roads, Surfaces and Highways

Potential Dust Source	Dust Control Guidance
Major haul roads and traffic routes	• Install permanent surfaces with regular inspection and maintenance. • Plan routes to be away from residents and other sensitive receptors, such as schools and hospitals.
Construction and maintenance of unsurfaced roads and verges	• Grade fine materials from unsurfaced haul roads. • Keep in compacted condition using static sprinklers, bowsers, commercially available additives and binders (subject to Environment Agency (EA) requirements).
Public roads	• Clean regularly subject to Local Authority or Highway Authority approval.
Edges of roads and footpaths	• Clean by using hand broom with damping, as necessary.
Vehicle waiting areas and hard standings	• Regularly inspect and keep clean by brushing or vacuum sweeping. • Spray regularly with water to maintain surface moisture if needed.
Vehicle and wheel washing	• Washing facilities, such as wheel washes with a recycled water capability, hose-pipes and ample water supply should be provided at site exits where appropriate. These facilities shall include mechanical wheel spinners where practicable. • If necessary, all vehicles should be washed down before exiting the site
Site traffic management and speed control	• Restrict general site traffic to watered or treated haul roads. • *Keep vehicle movements to a minimum.* • Limit vehicle speeds - the slower the vehicle speeds, the lower the dust generation. Typical recommendations are: - 20 mph or less for surfaced roads - 5 mph for unmade surfaces.
Road cleaning	• Approved mechanical road sweeper should be readily available. • Frequency of cleaning will depend on site size, location and operation. However, cleaning should be carried out on a daily basis (working day) or more frequently if required. • Disposal of road sweeper arisings must be detailed within the SWMP

Table 15: Static and Mobile Combustion Plant Emissions

Potential Dust Source	Dust Control Guidance
Visible exhaust smoke	• Vehicles and equipment should not emit black smoke from exhaust systems except during ignition at start-up.
Maintenance	• Engines and exhaust systems should be maintained so that exhaust emissions do not breach statutory emission limits set for the vehicle/equipment type and mode of operation.
Servicing	• This should be routinely scheduled, rather than just following breakdowns.
Operating time	• Internal combustion plant should not be left running unnecessarily.
Exhaust direction	• Vehicle exhausts should be directed away from the ground and other surfaces and preferably upwards to avoid road dust being re-suspended to the air.
Exhaust heights	• Exhausts should be positioned at a sufficient height to ensure adequate local dispersal of emissions.
Location of plant and equipment	• Plant and equipment should be operated away from residential areas or sensitive receptors near to the site.

Tarmac Laying, Bitumen Surfacing and Coating

Relevant control measures which may minimise the production of black smoke particles from hot bitumen processes are detailed in Table 16.

Table 16: Dust Control Guidance for Tarmac Laying, Bitumen Surfacing and Coating

Potential Dust Source	Dust Control Guidance
Bitumen over-heating	• Do not overheat bitumen, but use minimum acceptable temperature. • Measure temperature directly, especially on large heating plant. • Avoid if possible, heating with open flame burners.
Fume production	• Cover pots or tanks containing hot bitumen.
Small accidental fires	• Extinguish immediately.
Spillage	• Minimise spillages, especially any likely to contact open flames.
Direct application of open flames ('torching')	• Use great care. • Avoid overheating the surface.

Construction and Fabrication Processes

Operations such as cutting, grinding and sand-blasting can be major sources of airborne particles during the construction phase. Mitigation guidance is outlined in Table 17.

Table 17: Mitigation Guidance, Construction and Fabrication

Potential Dust Source	Dust Control Guidance
Cutting, grinding, drilling, sawing, trimming, planning, sanding	▪ Cutting on site should be avoided by using prefabrication whenever possible. ▪ Avoid cutting out errors and re-bars. ▪ Employ equipment and techniques that minimise dust emissions, using best available dust suppression measures. ▪ Use water sprays to minimise dust from cutting equipment. ▪ Local exhaust ventilation should be used where possible. ▪ Fans and filters should be serviced and maintained to ensure correct operation. ▪ Design to fill wherever feasible rather than cutting back oversized work.
Cutting roadways, pavements blocks, etc	▪ Use a diamond bladed floor saw with water pumped through to suppress dust. ▪ The use of standard angle grinders and disk cutters with no dust control should be kept to a minimum.
Raking out mortar/pointing	▪ Standard angle grinders and disk cutters with no dust control should be avoided where possible. ▪ A mortar raking kit, fitted on to a standard 5" angle grinder can be used on soft mortar. For hard mortar, a super-saw with oscillating blades can be used.
Angle grinders and disk cutters	▪ Dust minimisation systems should be used where possible.

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27/05/2010 16:39

To <leeds.property@lidl.co.uk>
cc "Stenhouse, Tom" <Tom.Stenhouse@aecom.com>, "O'Connor, James E." <james.oconnor@aecom.com>
bcc
Subject RE: Dust Assessment - Former Co-op Pioneer, Peel St, Barnsley, S70 2RE

FAO: Matthew Mitchell

Please find attached the dust assessment report for the proposed development at Peel Street, Barnsley.

The report has identified potential dust-generating activities and recommended appropriate mitigation controls.

Please note that we contacted Barnsley MBC to confirm the acceptability of the assessment methodology, as outlined in the proposal. The pollution control officer raised a concern regarding the proximity of the development to an Air Quality Management Area (AQMA), which may be impacted by vehicles emissions during the operational phase. Please note that the Council may therefore require further assessment work to confirm that the potential operational phase impact due to vehicles emissions will be acceptable. If you have any comments or questions regarding this, or the attached report, please let me know.

Regards,

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